

Salisbury Pathways Committee

Forty Ninth Meeting

Date and Time: Monday, January 13, 2020, at 5:30 p.m.

Location: Salisbury Town Hall, first floor.

Present: Natalia Smirnova, Pat Hackett, Kathy Trahan, Chris Williams, Gerry Stanton.

Minutes:

Call to order -- 5:30 p.m.

1. Approval of the minutes of November 19, 2019.

Minutes approved unanimously.

2. Status of the Connectivity Grant.

Feasibility study by Milone and Macbroom is done. (The study is attached.) Both sides of Route 44/41 were assessed. Leaning towards the North side. The cost estimate for the design is \$80,000. Selectmen will now go to the Board of Finance to ask for this budget allocation. After Board of Finance approval, this issue has to be presented at the Town Meeting. We will ask the town to approve the expenditure of funds of \$80,000 for the design. After we secure the funds and do the design, permits, etc. for the project to be shovel-ready, we will get \$400,000 from the State for the actual construction through the Connectivity Grant.

3. Status of Library to Salmon Kill Road Sidewalk.

DOT reviewed Lenard's work and still has one point to be corrected. They are worried about one point where water gathers and during winter, this will be an icy spot. Lenard's is reviewing and addressing this issue. When this is completed, DOT will issue permits. Shovel-ready probably in March.

4. New Business: summation of 2019 and forward view of 2020.

Chris Williams said that he is proud of this Committee. In 4 years, we are almost shovel-ready for two projects. 2019 was a good year where we efficiently moved on many fronts. We hope that 2020 will be even better as we plan to start seeing the fruits of our labor.

5. Citizens comments – no citizens present.

Meeting adjourned at 6:01 p.m.

Minutes respectfully submitted by Natalia V. Smirnova, Secretary, on January 17, 2020.

December 23, 2019

Mr. Curtis Rand, First Selectman
Town of Salisbury
27 Main Street, P.O. Box 548
Salisbury, CT 06068

**RE: Feasibility Study Letter
CT Routes 41/44 (Main Street) Sidewalk Connection
Salisbury, Connecticut
MMI #3039-06-01**

Dear Mr. Rand:

This letter shall serve to outline the two proposed concepts (enclosed) for sidewalk installation along CT Routes 41/44 (Main Street) between the intersection of CT Route 41/44 at Lincoln City Road and the Lakeville Firehouse at the northeast corner of CT Routes 41/44 and Brook Street. While you are intimately familiar with the corridor, the following serves to describe and evaluate the two concepts and offer our initial observations on rights-of-way, utilities, and environmental impacts, along with access management and pedestrian crossing considerations and to provide a preliminary opinion of probable construction costs based on the attached concept plans dated November 8, 2019.

The project corridor is approximately 1,400 linear feet in length, beginning at the intersection of CT Routes 41/44 at Lincoln City Road (signalized) at the southerly terminus, continuing north over Pettee Brook and passing through Meadow Street (unsignalized) and Brook Street (unsignalized) and terminating at the Lakeville firehouse. The Average Daily Traffic (ADT) on Main Street just east of Brook Street is 7,494 vehicles per day (vpd) with an 85th percentile speed of 41 miles per hour (mph) in the southbound direction and 46 mph in the northbound direction as recorded by our vendor, CT Counts, on September 9, 2019, and September 10, 2019. Main Street carries a single lane of traffic in each direction separated by a double yellow center line with varying shoulder widths.

Concept A

Concept A involves the construction of a 5'-wide bituminous concrete sidewalk with a grassed amenity strip on the west side of Main Street starting at Lincoln City Road and continuing north over Pettee Brook via a pedestrian bridge. North of the bridge a marked and signed crosswalk will direct pedestrians to the east side of the roadway just north of Brook Street where the sidewalk will continue along the roadway and terminate at the front entrance of 194 Main Street.

Overall, the topography along this route is moderate with few design challenges that would impact grading and sidewalk grades, adhering to Americans with Disabilities Act (ADA) standards and Public Right of Way Accessibility Guidelines (PROWAG) adopted by the Connecticut Department of Transportation (CTDOT). The limited topographic challenges will allow the sidewalk to follow the grade of the adjacent roadway without the need to construct retaining walls or significantly slope the roadside.

For more information regarding the pedestrian bridge proposed over Pettee Brook, please refer to the attached Pedestrian Crossing at Pettee Brook memo. At this conceptual level, we envision a span length of 20 feet and assume a single-span prefabricated pedestrian bridge consisting of steel members or a single-span stick-built bridge consisting of timber members to span the watercourse. The bridge would be approximately 6 feet wide, measured between handrails.

Concept B

Concept B involves the construction of a 5' wide bituminous concrete sidewalk with a grass amenity strip on the east side of Main Street starting at Prospect Street, the southern terminus, continuing north over Pettee Brook via a pedestrian bridge and passing through Meadow Street (unsignalized) and Brook Street (unsignalized) where it terminates at the front entrance of 194 Main Street. It should be noted that the existing concrete sidewalk on the east side of Main Street between Prospect Street and Meadow Street will need to be removed and replaced with a 5'-wide sidewalk as the existing sidewalk is 4' wide, which is noncompliant with accessibility guidelines.

Overall, the topography along this route is highly challenging on the east side of the roadway between Meadow Street and Pettee Brook where undesirable conditions present challenges to adherence to ADA standards and PROWAG guidelines adopted by CTDOT without significant infrastructure and grading. The challenging topography with fairly steep slopes would potentially require the construction of retaining walls or significant grading, which may be unfavorable to property owners in this area given the proximity of the homes to the roadway.

Just north of Pettee Brook along the 3 Brook Street property, runoff from the roadway is intercepted via a roadside swale that directs water into Pettee Brook to mitigate impacts to the 3 Brook Street property. Without curbing and a modified drainage system, this existing swale would create design challenges when connecting the proposed pedestrian bridge and sidewalk while maintaining the swale to discharge runoff into the brook.

Furthermore, field observations of the existing culvert on the east side of the bridge indicate that the downstream slope is eroding and therefore may need to be better stabilized. A pedestrian bridge over Pettee Brook would require a large culvert reconstruction project that had not been accounted for in the Community Connectivity Grant application. The condition of the culvert on the east side of the roadway has also been mentioned in the town's Road Safety Audit.

For more information regarding the pedestrian bridge proposed over Pettee Brook, please refer to the attached Pedestrian Crossing at Pettee Brook memo. At this conceptual level, we envision a span length of 35 feet and assume a single-span prefabricated pedestrian bridge consisting of steel members, a single-span stick-built bridge consisting of steel members, or a single-span stick-built bridge consisting of timber members to span the watercourse. The bridge would be approximately 6 feet wide, measured between handrails.

Rights-of-Way Impacts

Given the field survey has not yet been advanced and the limits of the state-owned right-of-way have not been mapped, the following observations are based on our preliminary investigations and Geographic Information System-mapped right-of-way lines depicted on the attached plans.

The state-owned right-of-way on the west side of Main Street is fairly wide through a majority of the corridor to the south, allowing the sidewalk and its grading limits indicated on Concept A to be located within this right-of-way. The state-owned right-of-way on the west side of the roadway north of Pettee Brook narrows down, and construction of the sidewalk may require an easement from 199 Main Street. Crossing over to the east side of the roadway in front of the Lakeville firehouse, adequate right-of-way exists, allowing the sidewalk and grading limits to be located within the state-owned right-of-way.

The state-owned right-of-way on the east side of Main Street is fairly narrow throughout the entirety of the corridor, which will most likely present the need for permanent/temporary easements for the construction of sidewalk as shown on Concept B. The state-owned right-of-way gradually widens north of Pettee Brook to the terminus of the project at the firehouse, providing adequate right-of-way for the construction of the proposed sidewalk.

During field walks conducted with the town and CTDOT engineers, it was observed that there may be privately owned objects located within the state-owned right-of-way along both proposed sidewalk routes that will need to be removed or relocated. In particular, CTDOT has made note of the "B&F" sign and lights located just south of Pettee Brook, the concrete steps in front of 233 Main Street, and removal and relocation of trees located within the right-of-way in front of 231 Main Street that can be found along the sidewalk route shown on Concept A. In addition, CTDOT made note of the wood fence located within the parking lot of 194 Main Street that parallels the sidewalk route shown on both Concept A and Concept B.

Utility Impacts

Through our initial outreach to utility companies with potential facilities along the project corridor, it was determined that most of the utilities within the sidewalk limits of Concept A are located overhead on adjacent utility poles, apart from the traffic signal controller, conduit, and wiring. The conduit and wiring run from the controller at the northeast corner of Main Street's intersection with Lincoln City Road, approximately 250 feet north along the west side of the roadway where they tie into the loop detectors within the roadway.

The exact location and offset of the conduit and wiring is not yet known, but potential conflicts with the proposed sidewalk may occur, which will require a shift in the sidewalk path or relocation of the conduit and handholes to accommodate the sidewalk.

In total, four utility poles are located within the limits of the proposed sidewalk for Concept A. Three utility poles are located along the west side of the roadway, and one utility pole is located on the east side of the roadway at the northeast corner of Main Street and Brook Street. It is anticipated that none of the utility poles will be affected by the proposed work under Concept A. However, the utility pole that supplies power to the flashing pedestrian crossing sign ahead will likely be removed as the sign is no longer warranted given the installation of the traffic signal at the intersection of Main Street and Lincoln City Road.

In one instance, utility pole guy wires are in conflict with the placement of the sidewalk at the northwest corner of Main Street and Lincoln City Road and may have to be extended horizontally over the sidewalk. We refer to this as a pedestrian-type guy wire. In this instance, the horizontal distance between the utility pole and edge of roadway is insufficient to construct a sidewalk and provide for a grassed buffer area of

desired width; therefore, the sidewalk must be placed behind the utility pole. Modifications to the guy wires will be performed by the utility pole owner and coordinated through a utility meeting if the design warrants this feature.

Based on information provided to us by the utility companies and through field observations, no additional impacts on utilities are anticipated along the sidewalk route shown on Concept A.

Most of the utilities within the sidewalk limits of Concept B are overhead poles, similar to Concept A and consistent with the entirety of the corridor. The only exception is a lone telephone manhole located at the southeast corner of Main Street and Brook Street which provides service across Main Street to 199 Main Street although the exact location of the conduit is unknown.

In total, 12 utility poles are located within the limits of the proposed sidewalk for Concept B, all of which are located on the east side of Main Street. It is anticipated that none of the utility poles will be affected by the proposed work under Concept A as the utility poles are placed within the proposed 5' grass buffer.

In one instance, utility pole guy wires are in conflict with the placement of the sidewalk at the northeast corner of Main Street and Brook Street and may have to be extended horizontally over the sidewalk as previously described with a pedestrian-type guy wire. In this instance, the horizontal distance between the utility pole and the edge of roadway is insufficient to construct a sidewalk and provide for a grassed buffer area of desired width; therefore, the sidewalk must be placed behind the utility pole. Modifications to the guy wires will be performed by the utility pole owner and coordinated through a utility meeting if the design warrants this feature.

Based on information provided to us by the utility companies and through field observations, no additional impacts on utilities are anticipated along the sidewalk route shown on Concept B.

Environmental Impacts

CTDOT's Office of Environmental Planning (OEP) has conducted an environmental screening for the project corridor to identify items relative to flood management, natural resources, historical/archaeological resources, and regulated contaminated materials that may need to be investigated or addressed during the design phase. As currently proposed, this project does not require an Environmental Impact Evaluation (EIE) under the Connecticut Environmental Policy Act (CEPA), nor does it require public scoping in the *Environmental Monitor*.

According to the environmental screening, the project area for both concepts is not within a National Diversity Database mapped area, the project is not expected to have any effect to historical/archaeological resources, and the project is not likely to encounter regulated hazardous material. The location of the pedestrian bridge, whether it is to be located on the east or west side of Pettee Brook, is located within a Federal Emergency Management Agency-mapped Flood Zone. Flood Management Certification (FMC) may be required.

Attached for your reference and files are CTDOT OEP's documents from the environmental screening.

Access Management

Opportunities for access management shall be implemented in order to limit the potential for pedestrian-vehicle conflicts wherever possible. In this regard, narrowing of driveways serves to reduce the expanse of pavement or gravel in order to shorten pedestrian crossings, thereby resulting in less opportunity for conflict. Wherever possible, parking lot entrances shall be better organized or signed to limit driver and pedestrian confusion and to provide for safer conditions.

Potential implementation of access management for the sidewalk route proposed in Concept A is at the 199 Main Street driveway where the existing gravel driveway spans nearly 75 feet. Reducing the driveway width as proposed in Concept A would limit the potential for pedestrian-vehicle conflicts. Coordination with the property owner, CTDOT, and the town would be required prior to implementation.

Potential implementation of access management for the sidewalk route proposed in Concept B does not present itself as all side streets and driveways are of desirable width to limit pedestrian-vehicle conflicts.

Pedestrian Crossing Considerations

The purpose of this project is to provide a safe pedestrian connection from the Salisbury Central School located on the west side of Main Street to the Lakeville firehouse located on the east side of Main Street off Brook Street, north of the school. Given the locations of the two termini on the opposite sides of Main Street, pedestrian accommodations are needed for pedestrians to safely maneuver across Main Street.

As proposed, both concepts provide pedestrian accommodations to cross Main Street. Concept B utilizes the existing traffic control signal at the intersection of Main Street and Lincoln City Road, which is equipped with pedestrian actuated push buttons, a pedestrian signal phase, and a marked crosswalk. The existing traffic signal eliminates the need for the installation and implementation of a new traffic control device along the corridor.

Concept A aims to introduce a new traffic control device at the mid-block crossing just north of Brook Street. One recommended option is a Rectangular Rapid Flashing Beacon (RRFB), which is a type of traffic control device designed to allow pedestrians to safely cross streets with high volumes of traffic. RRFBs can enhance safety by reducing crashes between vehicles and pedestrians at uncontrolled approaches to unsignalized intersections and mid-block pedestrian crossings by increasing driver awareness of potential pedestrian conflicts.

The RRFB is composed of amber light emitting diodes (LEDs) that supplement warning signs at uncontrolled approaches to unsignalized intersections or mid-block crosswalks. RRFBs use an alternating flash pattern that is similar to emergency flashers on police vehicles. RRFBs can be activated by pedestrians manually by a push button or passively by a pedestrian detection system. The RRFB provides a lower cost alternative to traffic control signals and hybrid signals while increasing driver yielding behavior at crosswalks. Implementation of a RRFB would be consistent with other RRFBs that have been installed in town, but it is not capable of integrating preemptive technology, which may be needed to provide safe egress from Brook Street for the firehouse. Based on conversations with the CTDOT District 4 office, the department would be amenable to implementation of a RRFB at this location.

The estimated cost of a RRFB at this location is \$35,000 as shown in the attached Preliminary Opinion of Construction Costs. Please find attached a traffic signal brief on RRFBs published by Connecticut's Training and Technical Assistance Center for your use.

Another recommended traffic control device designed to support safe pedestrian crossings is a High-Intensity Activated Crosswalk (HAWK). HAWK signals are overhead-mounted signals that operate only when a road user activates a push button at the pedestrian crossing. The signal activates a sequence of lights that require approaching drivers to slow down and come to a stop. It then provides a WALK indication to pedestrians and allows vehicles to proceed after pedestrians have crossed.

Although the HAWK signal is a much higher cost alternative to RRFBs, it is still a lower-cost alternative to a traffic control signal. A HAWK signal provides a two-fold advantage of integrating a safe pedestrian crossing by increasing driver yielding behavior at crosswalks with preemptive technology, allowing emergency vehicles to safely and quickly exit Brook Street. It is noted that currently a member of the firehouse must stop traffic on Main Street to safely maneuver emergency vehicles exiting from Brook Street.

A review of guidelines for the installation of pedestrian hybrid beacons on high-speed roadways published in the *Manual on Uniform Traffic Control Devices* (MUTCD) indicates that the proposed location of the HAWK signal does not meet the requirement for the anticipated number of pedestrians per hour (pph). Although a publication entitled *Pedestrian Hybrid Beacon Guide – Recommendations and Case Study* published by the Federal Highway Administration (FHWA) states the following, "If a location is deemed appropriate for a designated pedestrian crossing, the then traffic control should not be selected based solely on the volume of pedestrians; rather it should be selected based upon what is needed to provide a safe crossing." If the town elects to install a HAWK signal, then further coordinated with the CTDOT is required.

The estimated cost of a HAWK signal at this location is \$115,000 as shown in the attached Preliminary Opinion of Construction Costs. Please find attached a traffic signal brief on pedestrian hybrid beacons published by Connecticut's Training and Technical Assistance Center for your use.

Preliminary Opinion of Construction Costs

A preliminary estimate of construction items, quantities, and costs has been developed for each of the proposed concepts (Concept A and Concept B). The preliminary engineer's opinion of construction cost for **Concept A, which incorporates a RRFB, is \$250,000** while the cost for **Concept A with a HAWK signal is \$374,000**. The preliminary engineer's opinion of construction cost for **Concept B, which incorporates a HAWK signal, is \$424,000**. These amounts include a 10 percent cost for contingencies and a 10 percent cost for incidentals to construction, which includes construction inspection, testing, project oversight, etc. The estimated cost does not include right-of-way/easement acquisitions, utility relocations, or culvert reconstruction.

A copy of the itemized cost opinion is attached hereto. It is important to note that this is an early estimate, and as the design moves forward, the associated cost opinion is subject to change.

Summary of Construction Costs – Concept A (West Side) with RRFB

Description	Costs
2019 Contract Items Totals	\$208,060.00
Contingencies (10%±)	\$20,060.00
Incidentals to Construction (10%±)	<u>\$20,060.00</u>
2019 Project Total Construction Cost	\$249,672.00
2019 Project Total Construction Cost (Rounded)	\$250,000.00

Summary of Construction Costs – Concept A (West Side) with HAWK Signal

Description	Costs
2019 Contract Items Totals	\$311,138.00
Contingencies (10%±)	\$31,113.80
Incidentals to Construction (10%±)	<u>\$31,113.80</u>
2019 Project Total Construction Cost	\$373,365.60
2019 Project Total Construction Cost (Rounded)	\$374,000.00

Summary of Construction Costs – Concept B (East Side) with HAWK Signal

Description	Costs
2019 Contract Items Totals	\$352,921.60
Contingencies (10%±)	\$35,292.16
Incidentals to Construction (10%±)	<u>\$35,292.16</u>
2019 Project Total Construction Cost	\$423,505.92
2019 Project Total Construction Cost (Rounded)	\$424,000.00

This letter serves to describe and evaluate the two concepts and offer our initial observations on rights-of-way impacts, utility impacts and environmental impacts along with access management, pedestrian crossing considerations, and preliminary opinion of construction costs based on the attached concept plans dated December 23, 2019.

We recommend the town consider Concept A as the preferred alternative based on the following:

1. Limited/manageable topography
2. Shorter pedestrian bridge span, which will not require the reconstruction of the existing culvert
3. Ability to integrate a safe pedestrian crossing with preemptive control capabilities

The town shall review the attached concept plans, preliminary opinion of costs, and Pedestrian Crossing at Pettee Brook memo with this letter to offer any comments it may have and select a preferred concept to proceed with the design.

If you have any questions, please give me a call at (203) 271-1773.

Very truly yours,

MILONE & MACBROOM, INC.



Marc S. Mancini, EIT
Transportation Engineer

Attachments

- Pedestrian Crossing at Pettee Brook Memo
- Concept Plan A
- Concept Plan B
- Preliminary Opinion of Construction Costs (Concept A)
- Preliminary Opinion of Construction Costs (Concept B)
- Traffic Signal Brief – RRFB
- Traffic Signal Brief – HAWK Signal

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TO: Mr. Curtis Rand, First Selectman
Town of Salisbury

FROM: Shelley Plude, MS, PE
Milone & MacBroom, Inc.

RE: Pedestrian Crossing at Pettee Brook

DATE: December 23, 2019

MMI #: 3039-06-01

As a part of the proposed sidewalk extension project along Main Street in the Town of Salisbury, it will be necessary to provide pedestrian access across Pettee Brook. The overall sidewalk study is examining the feasibility, safety, and cost of locating the sidewalk on either side of Main Street; therefore, this structural type study will explore structural alternatives for crossing the watercourse on each side of the roadway.

GEOTECHNICAL ANALYSIS

Regional Geology

In order to develop preliminary foundation recommendations, Milone & MacBroom, Inc. (MMI) has reviewed available geologic maps for the area around the site at Main Street over Pettee Brook in Salisbury, Connecticut. The available geologic maps included the following:

- Map of Salisbury Area, Connecticut, dated 1915;
- Bedrock Geologic Map of the Sharon Quadrangle, Connecticut, Robert M. Gates; dated 1971-1976; and
- Surficial Materials Map of Connecticut, Janet Radway Stone, John P. Schafer, Elizabeth Haley London, and Woodrow B. Thompson, dated 1992.

According to this published geologic data, the subsurface materials at the site are mapped as thin till, which is generally less than 15 feet thick and includes areas of bedrock outcrop where the till is absent. The till likely consists of loose to moderately compact, poorly sorted, generally non-stratified, light-olive-gray to olive-brown mixture of particles ranging from boulder to clay sized particles.

The till likely overlies shallow bedrock consisting of dolomite Marble that is likely massive to sheared, iron-gray to white, fine grained and calcite-cemented that contains white quartz pods, rusty weathering quartz streaks, and coarse dolomite crystals that characterize some layers.

Subsurface Conditions

MMI expects the subsurface profile in the project area to generally consists of a thin veneer of topsoil and/or fill over thin till over shallow bedrock.

Where present, the topsoil likely consists of fine to medium sand with varying proportions of silt, gravel, and organic matter; and the fill likely consists of a variable mixture of sand and gravel and possibly some deleterious materials. The till likely consists of fine to coarse sand with little fine to coarse gravel and trace to some silt with cobbles and boulders. The bedrock quality could vary significantly across the

project area and evidence of bedrock outcrops to the north suggests bedrock may be sloping up from south to north.

Groundwater levels likely match that of the nearby Pettee Brook, but will vary depending on factors such as season, precipitation, construction activity, and other conditions.

PRELIMINARY GEOTECHNICAL RECOMMENDATIONS

Pedestrian Bridge Foundations

Depending on the magnitude of the foundation loads and the depth to bedrock in the area, foundation options may include: shallow spread footings bearing on undisturbed till; helical piles that develop their capacity within the till; or micro-piles that develop their capacity within the till and/or bedrock.

Shallow spread footings can likely be constructed on the till and/or bedrock or on compacted granular fill over these materials. Where compacted granular fill is used beneath the footings, it should be placed one foot beyond the edge of the footing and at a one horizontal to one vertical (1H:1V) slope down and away to the top of the natural bearing material.

The footings should also be constructed a minimum depth of 42 inches below final grades to protect against frost. An allowable bearing pressure of 6 kips per square foot can be assumed for preliminary sizing; however, the minimum isolated footing size should be 2.5 feet, and the minimum wall footing width should be 18 inches.

Helical piles are an extendable deep foundation system with helical-shaped bearing plates welded to an open round shaft steel pipe pile or solid square-shaft that would develop their capacity within the till stratum. The helical pile is installed with a hydraulic torque motor attached to construction equipment which is used to rotate the pipe shaft, and as the shaft rotates, the helical plate advances into the ground "pulling" the pipe shaft with it. For the purposes of the feasibility study, an allowable capacity of 20 kips can be assumed for each helical pile.

Micropiles are a drilled-in, deep foundation that consists of an upper, cased section that extends from the pile cap through the overburden followed by a lower, uncased section or "bond" zone within the bearing stratum (e.g. till or bedrock). Micropiles range in size up to approximately 12-inches in diameter and would gain its capacity in skin resistance within the "bond" zone. For the purposes of the feasibility study, an ultimate grout to ground bond of 20 pounds per square inch can be assumed for the till and/or bedrock.

Pedestrian Sidewalk

For the purposes of the feasibility study, the asphalt pavement section for the proposed sidewalk could consist of 2-inches of surface course, over 8 inches of granular, over a prepared subgrade of undisturbed till.

STRUCTURE TYPE STUDY

Proposed Span Determination

Main Street (Route 44) crosses Pettee Brook via a pipe culvert approximately 200 feet south of Brook Street. On the western side of the bridge, the Pettee Brook channel is confined by stone masonry walls running parallel to the channel extending a short distance from the culvert. On the eastern side of the bridge, Pettee Brook is unconfined with natural streambanks lined with rounded river rock. The northeast slope is armored with a small size riprap.

For a pedestrian crossing on the eastern side of the roadway, the abutments would be constructed at the top of bank on either side of the channel. The top of bank to top of bank distance is estimated to be about 30 feet. For the purposes of this feasibility study, it is assumed a 35-foot span would be required. On the western side of the roadway, the width of the confined channel is approximately 13 feet where it is confined by the existing stone walls. The proposed crossing would require a slightly longer span to avoid impacts to the existing stone walls. A 20-foot span is assumed for the western side of the roadway. Each pedestrian bridge is assumed to be 6' in clear width between handrails.

Structure Alternatives

Given the relatively short proposed span lengths, MMI evaluated structures capable of being fabricated on-site as well as prefabricated alternatives. Prefabricated pedestrian bridges are available in a wide range of structure types, decking materials, and aesthetic treatments. The most common types of prefabricated pedestrian structures are steel truss bridges. Steel bridges are generally more structurally efficient than timber bridges, however, with the anticipated span lengths at this site, the two types of construction are fairly comparable. The steel members may be shop painted or fabricated using weathering steel depending on the desired aesthetic. A wide range of decking materials are available with pressure treated wood being the most cost effective. Alternatives such as Ipe hardwood and composite decking tend to be much more durable resulting in lower long-term maintenance costs.

The bridge could be founded on cast-in-place abutments with spread footings or stub abutments supported by deep foundations such as helical piles or micropiles as discussed previously. Stub abutments would reduce the amount of excavation needed as well as minimize the amount of on-site concrete work. Helical piles are generally more economical than micropiles, however, the type of foundation would be driven by soil conditions.



Prefabricated Steel Truss Bridge – Weathering Steel and Ipe Hardwood Decking

The primary advantage of a prefabricated structure is ease of construction. The bridge arrives fully assembled and can be set in place quickly. A crane will be needed to lift the bridge in place which may require a temporary lane closure during construction depending on the proximity of the proposed pedestrian bridge to the roadway. Special attention would need to be given to overhead wires on the east side of the roadway as they may be a limiting factor when setting the bridge in place with a crane.

For the 35-foot crossing on the eastern side of the roadway, the estimated construction cost for a prefabricated pedestrian bridge \$60,000. For the 15-foot crossing on the western side of the roadway, the estimated construction cost is \$40,000.

With the proposed span lengths at the Pettee Brook crossing particularly on the western side of Main Street (Concept A), bridge or boardwalk structure alternatives that can be fabricated on site should be considered. While prefabricated pedestrian bridges tend to be more cost effective than stick-built construction over larger span lengths, there may be negligible cost savings for short span structures. In some instances, prefabricated structures may be more costly.

A pedestrian crossing built on site would consist of a single clear span or a multiple span structure. For the longer crossing on the eastern side of Main Street, a multiple span structure would have a center span with supports on either side of the watercourse/wetlands to satisfy permitting and hydraulic concerns. With the reduced span lengths of a multiple span structure, the proposed crossing would be constructed with timber members and timber or composite decking. Intermediate supports would consist of timber piles, concrete piers, or drilled helical piles. A single span structure could be constructed with either steel girders or glued laminated (glulam) beams. With the low clearance of the crossing, steel girders may be necessary despite potentially higher costs compared with glulam, as a steel beam at the proposed span length would provide a considerably shallower structure depth.

A crossing along the western side of Main Street could easily be achieved with a single span due to the short length of the crossing. With a proposed span length of 15 feet, timber would be a more cost-effective alternative to steel.

For any of the stick-built alternatives, the decking would consist of either pressure treated wood or composite materials. The railing systems can also be customized to achieve the Town's desired aesthetic. Treatments may range from a timber rail with wood pickets to a more open railing system utilizing steel mesh panels. It should be noted that such structures may require added maintenance as compared to steel structures.



Left: Composite Decking with Timber Railing; Right: Ipe Hardwood Decking and Steel Mesh Panel Railing

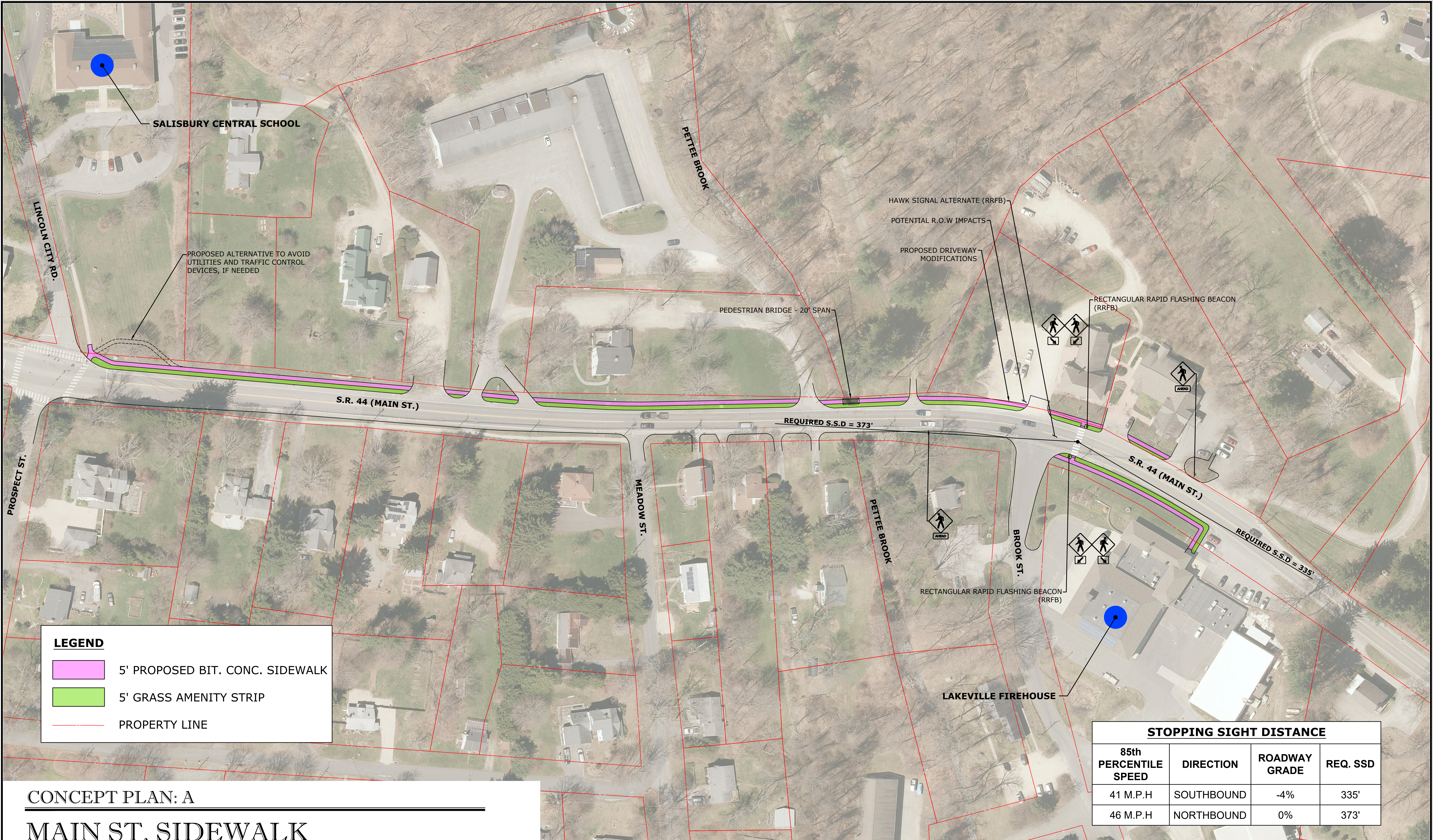
For the 35-foot crossing on the eastern side of the roadway, the estimated construction cost for a single span structure utilizing steel girders is \$35,000. The cost to construct a multispan crossing is estimated to be \$30,000. For the 15-foot crossing on the western side of the roadway, the estimated construction cost of a single span timber structure is \$20,000.

Construction Considerations

Any of the structure alternatives for a crossing along the eastern side of Main Street (Concept B) would have a higher construction cost in comparison with the western crossing due to the span length. The location of overhead utilities along the side of the roadway may also potentially impact construction. As noted previously, a prefabricated pedestrian bridge would require a crane to set the structure. The existing overhead electrical utilities may need to be shielded or the bridge located away from the utilities to avoid conflicts during construction. In addition to utility concerns during construction, the pole at the northeast corner of the existing roadway culvert has a guy wire which may potentially conflict with the proposed path requiring relocation or reconfiguration of the anchor.

While there are no overhead utilities along the western side of Main Street at the culvert, there are two existing stormwater outfalls through each of the culvert wingwalls. To avoid impacting the existing drainage system, the proposed crossing may need to be set away from the road on the western side of the pipe outfalls. If rights-of-way concerns require the bridge to be closer to the roadway, the drainage pipes would need to be incorporated into the proposed bridge abutments.

Approximately 30 feet south of the Pettee Brook culvert, there is a commercial driveway. The proposed pedestrian crossing may be slightly elevated to avoid the existing stone wingwalls and to ensure a low chord elevation above the existing pipe culvert. Depending on the grade at the pedestrian bridge, the driveway apron may need to be reconstructed and reggraded to accommodate the change in elevation.



LEGEND

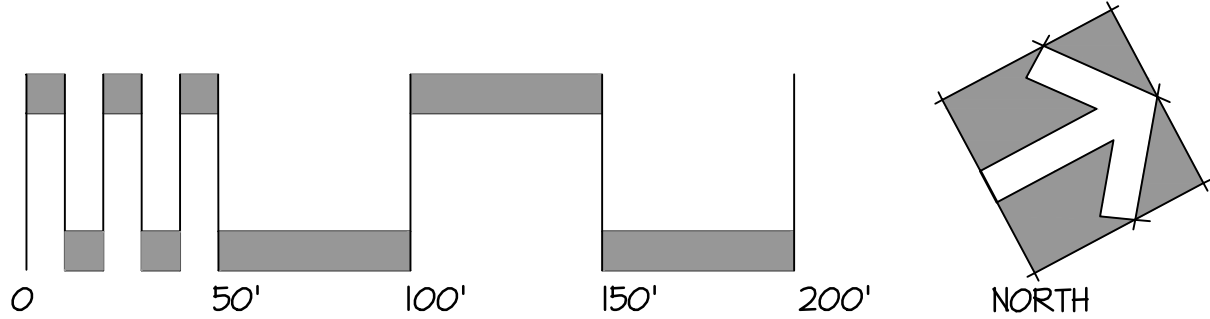
- 5' PROPOSED BIT. CONC. SIDEWALK
- 5' GRASS AMENITY STRIP
- PROPERTY LINE

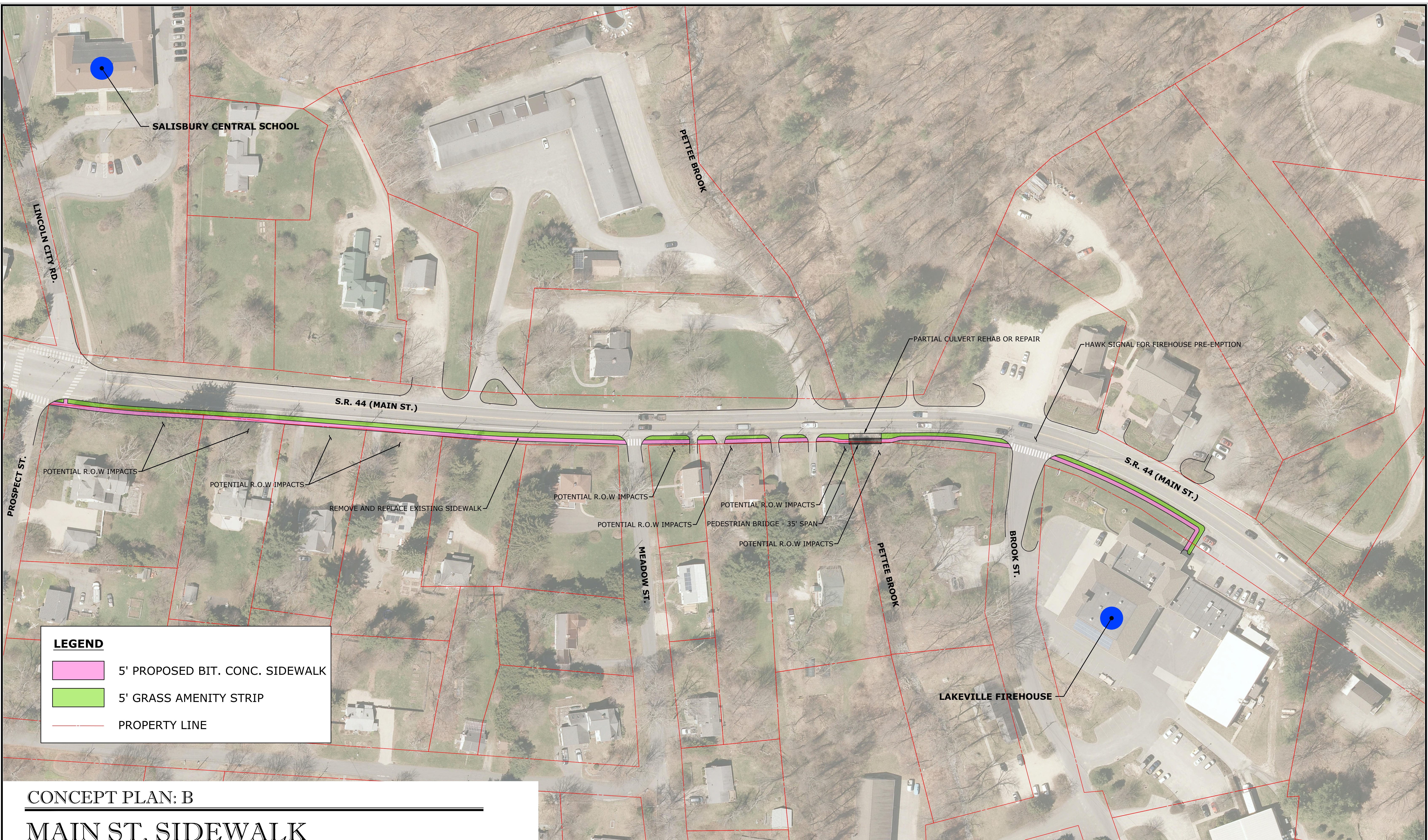
CONCEPT PLAN: A
MAIN ST. SIDEWALK CONNECTION

S.R. 44 (MAIN ST.)
SALISBURY, CT DECEMBER 23, 2019

MILONE & MACBROOM
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1775
WWW.MMINC.COM

STOPPING SIGHT DISTANCE			
85th PERCENTILE SPEED	DIRECTION	ROADWAY GRADE	REQ. SSD
41 M.P.H	SOUTHBOUND	-4%	335'
46 M.P.H	NORTHBOUND	0%	373'





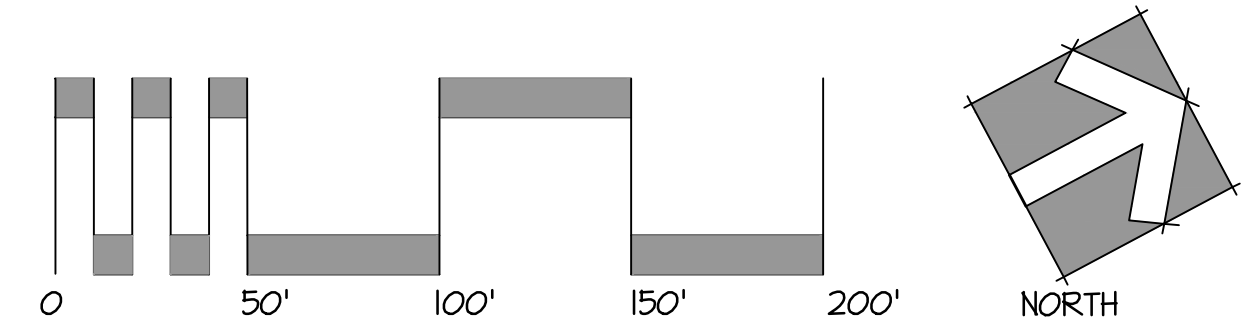
CONCEPT PLAN: B

**MAIN ST. SIDEWALK
CONNECTION**

S.R. 44 (MAIN ST.)
SALISBURY, CT DECEMBER 23, 2019

**MILONE &
MACBROOM**

99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1775
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CONCEPT A (RRFB)
PRELIMINARY ENGINEER'S OPINION OF CONSTRUCTION COSTS
CT ROUTE 41/44 (MAIN ST.) SIDEWALK IMPROVEMENTS
SALISBURY, CT
MMI# 3039-06
DECEMBER 23, 2019

ITEM NO.	ITEM/DESCRIPTION	UNIT	QTY	UNIT COST	AMOUNT IN FIGURES
0202000	EARTH EXCAVATION	c.y.	100	\$22.00	\$2,200.00
0219011 A	SEDIMENT CONTROL SYSTEM AT CATCH BASIN	ea.	13	\$120.00	\$1,560.00
0815001	BITUMINOUS CONCRETE LIP CURBING	l.f.	50	\$7.00	\$350.00
0921005	CONCRETE SIDEWALK RAMP	s.f.	200	\$16.00	\$3,200.00
0921039	DETECTABLE WARNING STRIP	ea.	2	\$200.00	\$400.00
0922001	BITUMINOUS CONCRETE SIDEWALK	s.y.	900	\$42.00	\$37,800.00
0944000	FURNISHING AND PLACING TOPSOIL	s.y.	1600	\$6.00	\$9,600.00
0950005	TURF ESTABLISHMENT	s.y.	1600	\$2.00	\$3,200.00
0970007	TRAFFICPERSON (UNIFORMED FLAGGER)	hr	320	\$55.00	\$17,600.00
1117110 A	RECTANGULAR RAPID FLASHING BEACON (RRFB) TYPE A	ea.	2	\$17,500.00	\$35,000.00
1206023 A	REMOVAL AND RELOCATION OF EXISTING SIGNS	l.s.	1	\$1,000.00	\$1,000.00
1208927 A	SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)	s.f.	30	\$60.00	\$1,800.00
1210105	EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS	s.f.	230	\$5.00	\$1,150.00
1211001	REMOVAL OF PAVEMENT MARKINGS	s.f.	19	\$10.00	\$190.00
	PEDESTRAIN BRIDGE (VARIES)	l.s.	1	\$40,000.00	\$40,000.00
	MINOR ITEMS ALLOWANCE (±20%)	l.s.	1	\$31,010.00	\$31,010.00
CONTRACT ITEMS SUBTOTAL					\$186,060.00
LUMP SUM CONTRACT ITEMS					
0201001 A	CLEARING AND GRUBBING (±2%)	l.s.	1	\$4,000.00	\$4,000.00
0971001 A	MAINTENANCE AND PROTECTION OF TRAFFIC (±3%)	l.s.	1	\$6,000.00	\$6,000.00
0975004	MOBILIZATION AND PROJECT CLOSEOUT (±5%)	l.s.	1	\$10,000.00	\$10,000.00
0980001	CONSTRUCTION STAKING (±1%)	l.s.	1	\$2,000.00	\$2,000.00
LUMP SUM CONTRACT ITEMS SUBTOTAL					\$22,000.00
CONTRACT ITEMS TOTAL					\$208,060.00
CONTINGENCIES (10%)					\$20,806.00
INCIDENTALS TO CONSTRUCTION (10%)					\$20,806.00
PROJECT TOTAL					\$249,672.00
PROJECT TOTAL (ROUNDED)					\$250,000.00

Exclusions:

- 1) Easements/Acquisitions
- 2) Utility Relocations

CONCEPT A (HAWK SIGNAL)
PRELIMINARY ENGINEER'S OPINION OF CONSTRUCTION COSTS
CT ROUTE 41/44 (MAIN ST.) SIDEWALK IMPROVEMENTS - CONCEPT A (HAWK)
SALISBURY, CT
MMI# 3039-06
DECEMBER 23, 2019

ITEM NO.	ITEM/DESCRIPTION	UNIT	QTY	UNIT COST	AMOUNT IN FIGURES
0202000	EARTH EXCAVATION	c.y.	100	\$22.00	\$2,200.00
0219011 A	SEDIMENT CONTROL SYSTEM AT CATCH BASIN	ea.	13	\$120.00	\$1,560.00
0815001	BITUMINOUS CONCRETE LIP CURBING	l.f.	45	\$7.00	\$315.00
0921005	CONCRETE SIDEWALK RAMP	s.f.	200	\$16.00	\$3,200.00
0921039	DETECTABLE WARNING STRIP	ea.	2	\$200.00	\$400.00
0922001	BITUMINOUS CONCRETE SIDEWALK	s.y.	900	\$42.00	\$37,800.00
0944000	FURNISHING AND PLACING TOPSOIL	s.y.	1300	\$6.00	\$7,800.00
0950005	TURF ESTABLISHMENT	s.y.	1300	\$2.00	\$2,600.00
0970007	TRAFFICPERSON (UNIFORMED FLAGGER)	hr	320	\$55.00	\$17,600.00
	PEDESTRIAN HYBRID BEACON (HAWK SIGNAL)	ea.	1	\$115,000.00	\$115,000.00
1206023 A	REMOVAL AND RELOCATION OF EXISTING SIGNS	l.s.	1	\$1,000.00	\$1,000.00
1208927 A	SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)	s.f.	30	\$60.00	\$1,800.00
1210105	EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS	s.f.	230	\$5.00	\$1,150.00
1211001	REMOVAL OF PAVEMENT MARKINGS	s.f.	19	\$10.00	\$190.00
	PEDESTRAIN BRIDGE (VARIES)	l.s.	1	\$40,000.00	\$40,000.00
	MINOR ITEMS ALLOWANCE (±20%)	l.s.	1	\$46,523.00	\$46,523.00
CONTRACT ITEMS SUBTOTAL					\$279,138.00
LUMP SUM CONTRACT ITEMS					
0201001 A	CLEARING AND GRUBBING (±2%)	l.s.	1	\$6,000.00	\$6,000.00
0971001 A	MAINTENANCE AND PROTECTION OF TRAFFIC (±3%)	l.s.	1	\$9,000.00	\$9,000.00
0975004	MOBILIZATION AND PROJECT CLOSEOUT (±5%)	l.s.	1	\$14,000.00	\$14,000.00
0980001	CONSTRUCTION STAKING (±1%)	l.s.	1	\$3,000.00	\$3,000.00
LUMP SUM CONTRACT ITEMS SUBTOTAL					\$32,000.00
CONTRACT ITEMS TOTAL					\$311,138.00
CONTINGENCIES (10%)					\$31,113.80
INCIDENTALS TO CONSTRUCTION (10%)					\$31,113.80
PROJECT TOTAL					\$373,365.60
PROJECT TOTAL (ROUNDED)					\$374,000.00

Exclusions:

- 1) Easements/Acquisitions
- 2) Utility Relocations

CONCEPT B (HAWK SIGNAL)
PRELIMINARY ENGINEER'S OPINION OF CONSTRUCTION COSTS
CT ROUTE 41/44 (MAIN ST.) SIDEWALK IMPROVEMENTS
SALISBURY, CT
MMI# 3039-06
DECEMBER 23, 2019

ITEM NO.	ITEM/DESCRIPTION	UNIT	QTY	UNIT COST	AMOUNT IN FIGURES
0202000	EARTH EXCAVATION	c.y.	120	\$22.00	\$2,640.00
0202513 A	REMOVAL OF CONCRETE SIDEWALK	s.y.	350	\$25.00	\$8,750.00
0219011 A	SEDIMENT CONTROL SYSTEM AT CATCH BASIN	ea.	13	\$120.00	\$1,560.00
0815001	BITUMINOUS CONCRETE LIP CURBING	l.f.	90	\$7.00	\$630.00
0921005	CONCRETE SIDEWALK RAMP	s.f.	200	\$16.00	\$3,200.00
0921039	DETECTABLE WARNING STRIP	ea.	2	\$200.00	\$400.00
0922001	BITUMINOUS CONCRETE SIDEWALK	s.y.	889	\$42.00	\$37,338.00
0944000	FURNISHING AND PLACING TOPSOIL	s.y.	1600	\$6.00	\$9,600.00
0950005	TURF ESTABLISHMENT	s.y.	1600	\$2.00	\$3,200.00
0970007	TRAFFICPERSON (UNIFORMED FLAGGER)	hr	320	\$55.00	\$17,600.00
	PEDESTRIAN HYBRID BEACON (HAWK SIGNAL)	ea.	1	\$115,000.00	\$115,000.00
1206023 A	REMOVAL AND RELOCATION OF EXISTING SIGNS	l.s.	1	\$1,200.00	\$1,200.00
1210105	EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS	s.f.	430	\$5.00	\$2,150.00
	PEDESTRAIN BRIDGE (VARIES)	l.s.	1	\$60,000.00	\$60,000.00
	MINOR ITEMS ALLOWANCE (±20%)	l.s.	1	\$52,653.60	\$52,653.60
CONTRACT ITEMS SUBTOTAL					\$315,921.60
LUMP SUM CONTRACT ITEMS					
0201001 A	CLEARING AND GRUBBING (±2%)	l.s.	1	\$7,000.00	\$7,000.00
0971001 A	MAINTENANCE AND PROTECTION OF TRAFFIC (±3%)	l.s.	1	\$10,000.00	\$10,000.00
0975004	MOBILIZATION AND PROJECT CLOSEOUT (±5%)	l.s.	1	\$16,000.00	\$16,000.00
0980001	CONSTRUCTION STAKING (±1%)	l.s.	1	\$4,000.00	\$4,000.00
LUMP SUM CONTRACT ITEMS SUBTOTAL					\$37,000.00
CONTRACT ITEMS TOTAL					\$352,921.60
CONTINGENCIES (10%)					\$35,292.16
INCIDENTALS TO CONSTRUCTION (10%)					\$35,292.16
PROJECT TOTAL					\$423,505.92
PROJECT TOTAL (ROUNDED)					\$424,000.00

Exclusions:

- 1) Easements/Acquisitions
- 2) Utility Relocations
- 3) Culvert Repairs



T2Center
Training and Technical Assistance

TRAFFIC SIGNAL BRIEF

Tech Brief Series

Tech Brief - 2019-4

Rectangle Rapid Flashing Beacons

There is some confusion around the terms Rectangular Rapid Flashing Beacon (RRFB), Pedestrian Hybrid Beacon (PHB) and High-intensity Activated crossWalk (HAWK). We will first discuss what each of these terms mean.

RRFB



An RRFB is a warning device that provides an irregular flashing pattern using amber light emitting diodes when activated by either a push button or pedestrian detection system. It serves as a supplement to a warning sign at an uncontrolled crossing location by directing the driver's attention to the need to yield to a pedestrian. It does not assign right of way.

It may be mounted with a roadside sign or an overhead sign. RRFBs are not included in the 2009 Edition of the MUTCD, but they are currently approved for use in Connecticut under an FHWA interim approval.

RRFBs can be installed on two-lane or multi-lane roadways.

PHB or HAWK



A PHB is a traffic control device used to help pedestrians safely cross at uncontrolled intersections and mid-block crosswalks. It is often referred to in Connecticut as a HAWK signal. The beacon head consists of two red lenses above a single yellow lens. The lenses remain "dark" until a pedestrian desiring to cross the street pushes the call button to activate the beacon. The signal then initiates a yellow to red lighting sequence consisting of steady and flashing lights that directs motorists to slow and come to a stop. The pedestrian signal then flashes a WALK display to assign the right of way to the pedestrian. Once the pedestrian has safely crossed, the hybrid beacon again goes dark. Pedestrian Hybrid Beacons are MUTCD-approved traffic control devices.

PHBs may be used on roads consistent with the criteria defined in the MUTCD.

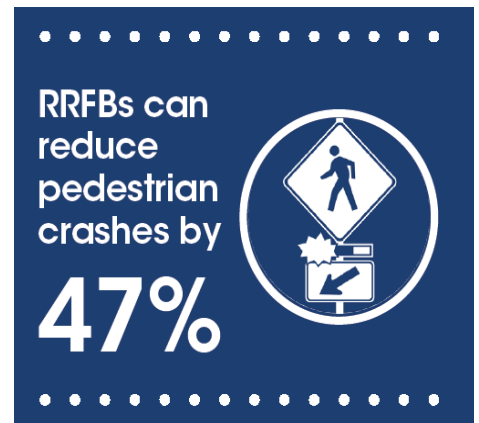
If you are looking for information on PHBs, please see the resources section at the end of this brief. For more information on RRFBs, keep reading.

How Does an RRFB Work?

RRFBs are user-actuated amber LEDs that supplement warning signs at uncontrolled intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system. RRFBs use an irregular flash pattern similar to emergency flashers on police vehicles. They may be installed on either two-lane or multi-lane roadways. A video of an RRFB in operation in New Haven, Connecticut is provided in the resources at the end of this brief.

Potential Benefits

- ⇒ Lower cost than a traffic signal or PHB.
- ⇒ Increase driver yielding behavior at crosswalks significantly when supplementing standard pedestrian crossing warning signs and markings.
- ⇒ More effective at increasing driver yielding rates to pedestrians than traditional overhead beacons.
(*St. Petersburg, FL efficacy study*)
- ⇒ The addition of an RRFB may also increase the safety effectiveness of other treatments, such as the use of advance yield markings with YIELD (or STOP) HERE FOR PEDESTRIANS signs.



Considerations for Implementation

RRFBs can use manual push-buttons or automated passive (e.g., video or infrared) pedestrian detection, and should be unlit when not activated. RRFBs typically receive power by standalone solar panel units but may also be wired to a traditional power source.

RRFBs are placed on both ends of a crosswalk. If the crosswalk contains a pedestrian refuge island or other type of median, an RRFB should be placed to the right of the crosswalk and on the median (instead of the left side of the crosswalk). Refer to Interim Approval 21 for details on the use of accessible pedestrian features with the RRFB assembly.

RRFB installations on state roadways in Connecticut require an encroachment permit from the appropriate District office and submission of a checklist CTDOT provides, sample plans and specifications for use in encroachment permit applications. Links to these documents are provided in the resources at the end of this brief. When RRFBs are not in common use in a community, consider conducting an outreach effort to educate the public and law enforcement officers on their purpose and use.

RRFBs are not currently included in the MUTCD but their use is allowed in accordance with FHWA Interim Approval 21. Interim Approval 21 requires CTDOT to maintain a list of all RRFB implementations in the state. Towns must notify CTDOT of the installation or removal of any RRFB via email to DOT.TrafficEngineering@ct.gov.

96% Driver Yield Rate



Source: Carmanah Traffic

Costs

FHWA estimates the cost associated with RRFB installation ranging from \$4,500 to \$52,000 each, with the average cost estimated at \$22,250. These costs include the complete system installation with labor and materials. This is less expensive than a full traffic signal or a Pedestrian Hybrid Beacon (PHB) which is estimated by FHWA to cost between \$21,000 and \$128,000.



Source: FHWA

Resources:

FHWA Interim Approval 21: https://mutcd.fhwa.dot.gov/resources/interim_approval/ia21/ia21.pdf

STEP Countermeasure Tech Sheet: RRFB: https://safety.fhwa.dot.gov/ped_bike/step/docs/TechSheet_RRFB_508compliant.pdf

CT DOT RRFB Brochure: https://www.ct.gov/dot/lib/dot/documents/dtrafficdesign/safety/rectangular_rapid_flash_beacon_brochure.pdf

Video of RRFB installed in New Haven (Source: New Haven Independent): [https://www.youtube.com/watch?v=RN1PGkkotmw#action=shareNew Haven Independent](https://www.youtube.com/watch?v=RN1PGkkotmw#action=shareNew%20Haven%20Independent)

RRFB Checklist for CT DOT Encroachment Permits: https://www.ct.gov/dot/lib/dot/documents/dtrafficdesign/safety/rrfb_checklist.pdf



CT Department of Transportation Sample Plans and Special Provisions:

- **Plan – Solar Powered:** https://www.ct.gov/dot/lib/dot/documents/dtrafficdesign/safety/solar_-_rrfb_sample_plan.pdf
- **Plan – Hard Wired:** https://www.ct.gov/dot/lib/dot/documents/dtrafficdesign/safety/hard_wired_-_rrfb_sample_plan.pdf
- **Special Provisions:** https://www.ct.gov/dot/lib/dot/documents/dtrafficdesign/safety/rrfb_special_provisions.pdf

St. Petersburg, Florida Efficacy Study: http://www.stpete.org/pdf/ite_paper_07.pdf

Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations – FHWA: https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/guide_to_improve_uncontrolled_crossings.pdf



For More Information on PHBs and Other Pedestrian Treatments:

T2 Center Tech Brief on Pedestrian Hybrid Beacons: https://www.t2center.uconn.edu/pdfs/Traffic%20Signal%20Brief_Pedestrian%20Hybrid%20Beacon_2019_3.pdf

PedBikeInfo.com: http://www.pedbikeinfo.org/webinars/webinar_details.cfm?id=9

Informational Brief: Treatments for Uncontrolled Marked Crosswalks – FHWA: https://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/informationalbrief/informationalbrief.pdf

CTDOT Safety Spotlight's HAWK Pedestrian Signals: <http://www.t2center.uconn.edu/pdfs/shsp/HAWK%20Flyer%20-%20Final%20-%20hi%20res.pdf>

For more Tech Briefs, Tailgate Talks, Safety Briefs or more information about the Connecticut Training and Technical Assistance Center visit us at: www.T2center.uconn.edu



Training and Technical Assistance Center

**Connecticut
Transportation
Institute**

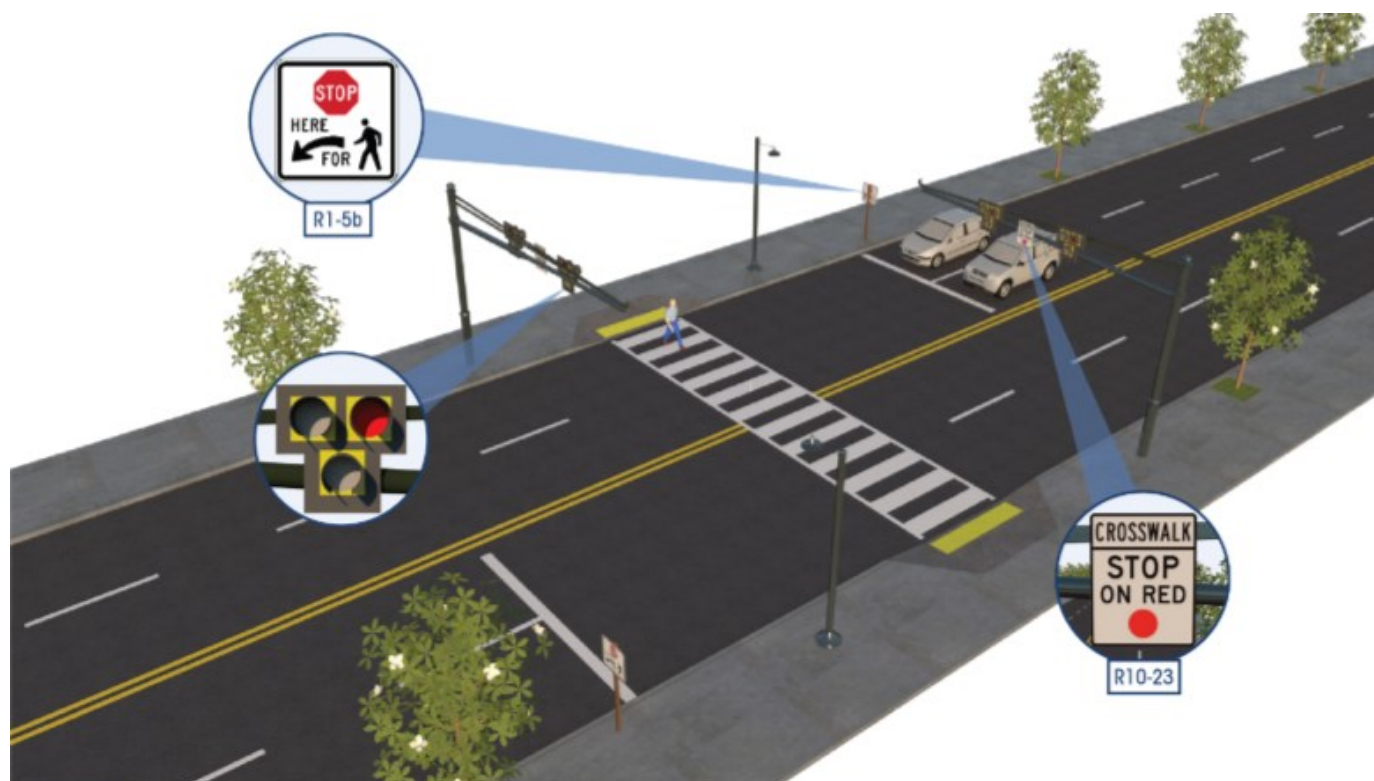


Tech Brief Series

Tech Brief - 2019-3

Pedestrian Hybrid Beacon

This Traffic Signal Brief discusses the Pedestrian Hybrid Beacon (PHB), which is designated as a Proven Safety Countermeasure by the Federal Highway Administration (FHWA).



Source: FHWA



There is some confusion around the terms Rectangular Rapid Flashing Beacon (RRFB), Pedestrian Hybrid Beacon (PHB) and High-intensity Activated crossWalk (HAWK). We will first discuss what each of these terms mean.







RRFB	PHB or HAWK
<div data-bbox="139 405 725 856" data-label="Image"> </div> <div data-bbox="139 863 425 892" data-label="Caption"> <p>RRFB - Source: FHWA</p> </div> <div data-bbox="73 949 773 1619" data-label="Text"> <p>An RRFB is a device that provides an irregular flashing pattern using amber light emitting diodes when activated by either a push button or pedestrian detection system. It serves as a supplement to a warning sign at an unsignalized crossing location by directing the driver’s attention to the need to yield to a pedestrian. It does not assign right of way.</p> <p>It may be mounted with a roadside sign or an overhead sign. RRFBs are not included in the 2009 Edition of the MUTCD, but they are currently approved for use in Connecticut under an FHWA interim approval.</p> <p>RRFBs can be installed on two-lane or multi-lane roadways.</p> </div>	<div data-bbox="846 424 1520 816" data-label="Image"> </div> <div data-bbox="846 821 1115 846" data-label="Caption"> <p>PHB - Source: FHWA</p> </div> <div data-bbox="807 949 1552 1669" data-label="Text"> <p>A PHB is a traffic control signal used to help pedestrians safely cross at uncontrolled intersections and midblock crosswalks. It is often referred to in Connecticut as a HAWK signal. The beacon head consists of two red lenses above a single yellow lens. The lenses remain "dark" until a pedestrian desiring to cross the street pushes the call button to activate the beacon. The signal then initiates a yellow to red lighting sequence consisting of steady and flashing lights that directs motorists to slow and come to a stop. The pedestrian signal then flashes a WALK display to assign the right of way to the pedestrian. Once the pedestrian has safely crossed, the hybrid beacon again goes dark. Pedestrian hybrid beacons are MUTCD-approved traffic control devices.</p> <p>PHBs may be used on roads consistent with the criteria defined in the MUTCD.</p> </div>

If you are looking for information on RRFBs, please see the resources section at the end of this brief for more information. For further information on PHBs, keep reading.



How does a PHB work?

The pedestrian hybrid beacon (PHB) is a traffic control device designed to help pedestrians safely cross busy or higher-speed roadways at midblock crossings and uncontrolled intersections. The beacon consists of two red lenses above a single yellow lens. Its operations are described below:

		
1. Dark until activated	2. Flashing yellow light for 3–6 s	3. Steady yellow light for 3–6 s
		
4. Steady red light during pedestrian interval	5. Alternating flashing red lights during pedestrian clearance interval	

More than 75 percent of pedestrian fatalities occur at non-intersection locations, and vehicle speeds are often a major contributing factor. As a safety strategy to address this pedestrian crash risk, the PHB is an intermediate option between a flashing beacon and a full pedestrian signal because it assigns right of way and provides positive stop control. It also allows motorists to proceed once the pedestrian has cleared their side of the travel lane, reducing vehicle delay.

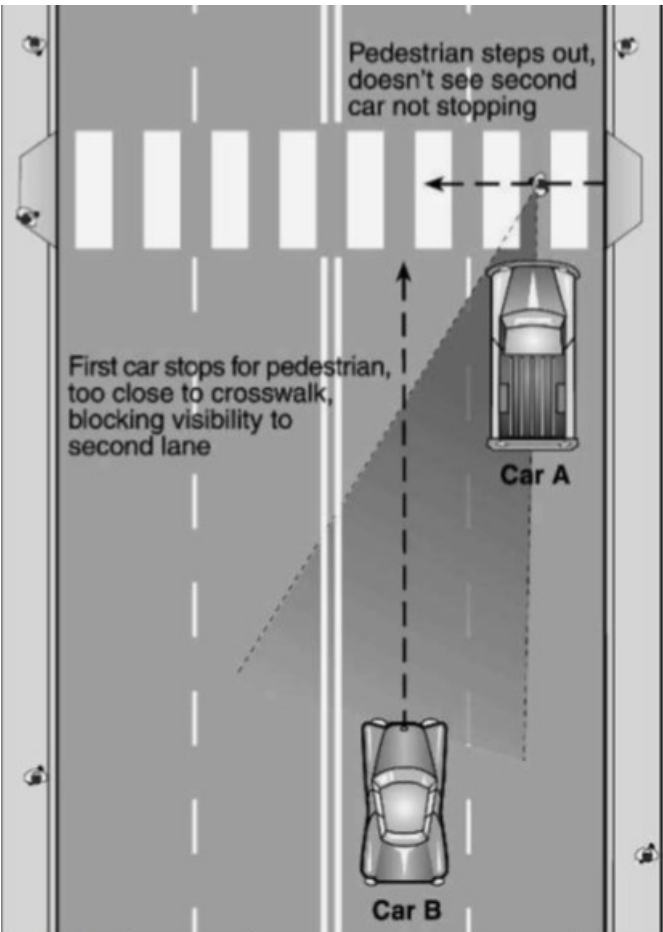


Source: AAA Foundation for Traffic Safety

Considerations for Implementation

Agencies should refer to [Section 4F.01](#) of the 2009 MUTCD for guidance on implementing PHBs. The MUTCD provides guidance on the pedestrian volume warrants, design features, and restrictions associated with the PHB. Other considerations include:

- PHBs are a candidate treatment for roads that generally have annual average daily traffic (AADT) above 9,000.
- Strongly consider a PHB for all midblock and intersection crossings where the roadway speed limits are equal to or greater than 40 miles per hour.
- PHBs can be used at both intersections and midblock locations.
- The PHB works well to counteract multiple threat crashes, which occur when a driver in one lane yields to a pedestrian crossing the street, but the driver in the next lane does not.
- PHBs are not widely implemented, so agencies should consider an education and outreach effort when implementing a PHB within a community.



Multiple Threat Crash
Source: FHWA Pedsafe

The FHWA publication *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* provides the following matrix to aid with selection of pedestrian treatments at uncontrolled locations:

Roadway Configuration	Speed Limit								
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
2 lanes*	1 2 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
3 lanes with raised median*	1 2 3 4 5	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7
3 lanes w/o raised median†	1 2 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
4+ lanes with raised median‡	1 3 5	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7
4+ lanes w/o raised median‡	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8
*One lane in each direction †One lane in each direction with two-way left-turn lane ‡Two or more lanes in each direction									
Given the set of conditions in a cell, ❶ Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location. ❷ Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location. The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.					1 High-visibility crosswalk markings, parking restriction on crosswalk approach, adequate nighttime lighting levels 2 Raised crosswalk 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line 4 In-Street Pedestrian Crossing sign 5 Curb extension 6 Pedestrian refuge island 7 Pedestrian Hybrid Beacon 8 Road Diet				
This table was developed using information from: Zegeer, C. V., Stewart, J. R., Huang, H. H., Lagenwey, P. A., Feaganes, J., & Campbell, B. J. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines (No. FHWA-HRT-04-100); Manual on Uniform Traffic Control Devices, 2009 Edition, Chapter 4F. Pedestrian Hybrid Beacons; the Crash Modification Factors (CMF) Clearinghouse website (http://www.cmfclearinghouse.org/); and the Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE) website (http://www.pedbikesafe.org/PEDSAFE/).									

Costs:

FHWA estimates the cost of implementing a PHB to be \$21,000 to \$128,000, with an average per unit cost of \$57,680. This is significantly less expensive than a full traffic signal installation, but higher than the cost of an RRFB installation which is estimated at \$10,000 to \$15,000.

Portions adapted from FHWA-SA-17-065

References and Resources

CT DOT HAWK Information Sheet

<http://www.ct.gov/dot/lib/dot/documents/dtrafficdesign/safety/hawk.pdf>

Pedestrian Hybrid Beacon Guide – Recommendations and Case Study – FHWA

https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa14014/fhwasa14014.pdf

MUTCD Section 4F.01: Application of Pedestrian Hybrid Beacons

<https://mutcd.fhwa.dot.gov/html/2009r1r2/part4/part4f.htm#section4F01>

Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations - FHWA

https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/guide_to_improve_uncontrolled_crossings.pdf

For information on RRFBs and other pedestrian treatments:

CT DOT RRFB Information Sheet

https://www.ct.gov/dot/lib/dot/documents/dtrafficdesign/safety/rectangular_rapid_flash_beacon_brochure.pdf

FHWA Safety page on RRFBs

https://safety.fhwa.dot.gov/intersection/conventional/unsignalized/tech_sum/fhwasa09009/

FHWA Interim Approval 21 for RRFBs

https://mutcd.fhwa.dot.gov/resources/interim_approval/ia21/index.htm

PedBikeInfo.com

http://www.pedbikeinfo.org/webinars/webinar_details.cfm?id=9

Informational Brief: Treatments for Uncontrolled Marked Crosswalks - FHWA

https://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/informationalbrief/informationalbrief.pdf

For more Tech Briefs, Tailgate Talks, Safety Briefs or more information about the Connecticut Training and Technical Assistance Center visit us at: www.T2center.uconn.edu

Salisbury Pathways Committee

Fiftieth Meeting

Date and Time: Monday, February 10, 2020, at 5:30 p.m.

Location: Salisbury Town Hall, first floor.

Present: Natalia Smirnova, Pat Hackett, Kathy Trahan, Gerry Stanton.

Minutes:

Call to order -- 5:32 p.m.

1. Approval of the minutes of January 13, 2020.
Minutes approved unanimously.
2. Status of the Connectivity Grant.
 - \$80,000 for the design/approval work leading to the construction was approved at the Salisbury Town Meeting on Wednesday, February 5, 34-1.
 - Salisbury Fire Department loves this project.
 - First Selectman, Curtis Rand, e-mailed the engineering firm to get the work started.
 - Things are starting up in the spring with the anticipation that the work will be completed by the end of 2020.
3. Status of Library to Salmon Kill Road Sidewalk.
 - Nothing new to report on this.
 - First Selectman, Curtis Rand, is thinking about Metcalf firm to do the work after the engineering firm obtains all necessary permits.
4. Citizens comments.
 - No citizens present. No comments made.

Meeting adjourned at 5:44 p.m.

Minutes respectfully submitted by Natalia V. Smirnova, Secretary, on February 15, 2020.

Salisbury Pathways Committee

Fifty First Meeting

Date and Time: Monday, June 8, 2020, at 5:30 p.m.

Location: Virtual via Zoom.

Present: Natalia Smirnova, Chris Williams, Kathy Trahan, Gerry Stanton.

Minutes:

Call to order -- 5:31 p.m.

1. Approval of the minutes of February 10, 2020.
Minutes approved unanimously.
2. Status of the Connectivity Grant.
 - On June 8, 2020, there will be the final testing of the soil around the brook on the North side of Rt41/44. When the analysis of the soil is done, the engineering firm will proceed with developing the final design.
 - Chris and Pat wanted to see if the flashing light for the emergency exit from Fire House could be done under this grant. The DOT said that this kind of light is not part of the Connectivity program. So, we will just have a regress light with the crosswalk, which is funded. This light will be the same as in Lakeville across from the post office right now.
 - After we have the final design from the engineering firm, we will continue the information campaign for this project. However, the Committee feels that we already have a good public information campaign going on: Salisbury Central School Board is informed, several articles in Lakeville Journal were published, private citizens and property owners from the 44/41 segment affected by this project were present at several Committee meetings, and private conversations with property owners commenced.
3. Status of Library to Salmon Kill Road Sidewalk.
 - Engineering firm had one more DOT comment to address. This comment is about one section where the water could accumulate and create a problem for pedestrians.
 - After the comment is answered, the DOT will issue a permit.
 - Pat is in charge to see if the DOT comment gets answered.
 - Chris is to find out if the comment was answered and when exactly the DOT permit will be issued.
 - The distance of this sidewalk was extended to the Salisbury Association meadow due to new ownership of the property before the meadow. This is a positive development.
4. Citizens comments – no public was present, no comments made.
5. New Business – no new business discussed.

Meeting adjourned at 5:53 p.m.

Minutes respectfully submitted by Natalia V. Smirnova, Secretary, on June 15, 2020.

Salisbury Pathways Committee

Fifty Second Meeting

Date and Time: Monday, August 10, 2020, at 5:30 p.m.

Location: Virtual via Zoom.

Present: Natalia Smirnova, Chris Williams, Kathy Trahan, Gerry Stanton, Pat Hackett

Minutes:

Call to order -- 5:33 p.m.

1. Approval of the minutes of June 8, 2020.
Approved unanimously.
2. Status of the Connectivity Grant:
 - Engineering firm submitted the final design on the bridge to DOT. The email from Marc S. Mancini, EIT, Transportation Engineer to Curtis Rand is attached.
 - Light does not fit the grant. Only beacons will be on the crosswalk.
 - Next Steps:
 1. Submit to CTDOT District 4
 2. Begin Environmental Permitting process
 3. Review PD Plan Set & Construction Estimate with Town/ Salisbury Pathways Committee and answer any questions (1-2 weeks)
 4. Assist the Town/Salisbury Pathways Committee in presenting the PD plans at public information meeting (virtually?)
 5. Prepare Construction Documents & incorporate Town, CTDOT & public commentsThe email from Marc S. Mancini, EIT, Transportation Engineer to Curtis Rand is attached.
 - Chris Williams hopes that April 1, 2021 will be the start of the construction. Pat Hackett estimates that when the construction starts, it will take only 1 month to complete the project.
3. Status of Library to Salmon Kill Road Sidewalk.
 - Curtis Rand signed off for the DOT planning document
 - State issues the permit next
 - Metcalf Paving will do the job after the permit is issued
 - Arborist must be called in to assess the situation with elm
 - The sidewalk will be till Meadow
 - Timeline: the project completed before November 2021.
4. Citizens comments: no citizens present.
5. New Business: no new business.

Meeting adjourned at 5:55 p.m.

Minutes respectfully submitted by Natalia V. Smirnova, Secretary, on August 14, 2020.



Natalia Smirnova <2014nataliasmirnova@gmail.com>

Fwd: Salisbury: Route 44 Sidewalk/Pedestrian Bridge Project

Christian Williams <bandit2spot1@yahoo.com>

Mon, Aug 10, 2020 at 6:23 AM

To: Natalia Smirnova <2014nataliasmirnova@gmail.com>, Kathryn Trahan <ktbox495@gmail.com>, Gerry Stanton <geraldstanton423@gmail.com>, Pat Hackett <prh@prhackett.com>

Sent from my iPhone

Begin forwarded message:

From: Curtis Rand <crand@salisburyct.us>**Date:** July 29, 2020 at 3:25:33 PM EDT**To:** Christian Williams <bandit2spot1@yahoo.com>, prh@prhackett.com**Subject:** Fwd: Salisbury: Route 44 Sidewalk/Pedestrian Bridge Project

Sent from my iPhone

Begin forwarded message:

From: Marc Mancini <mmancini@mminc.com>**Date:** July 29, 2020 at 11:26:32 AM EDT**To:** "Greenalch, Gina M." <Gina.Greenalch@ct.gov>**Cc:** "Ferris, Ronald S" <Ronald.Ferris@ct.gov>, "Bergeron, Anna" <Anna.Bergeron@ct.gov>, Curtis Rand <crand@salisburyct.us>, Chris Williams <cwilliams@salisburyct.us>, Pat Hackett <prh@prhackett.com>, Tony Ciriello <TCiriello@mminc.com>**Subject:** Salisbury: Route 44 Sidewalk/Pedestrian Bridge Project

Hi Gina,

As you are aware, the Town of Salisbury is proposing the placement of sidewalks and a pedestrian bridge along S.R. 44 (Main St.) in Salisbury starting at the intersection of Lincoln City Rd./Prospect St. and S.R. 44 and terminating at the Lakeville Hose Company with funding made available through the Community Connectivity program grant.

Since we last met in the field we have put together a preliminary design plan set and construction cost estimate for the proposed sidewalk and pedestrian bridge along the west side of S.R. 44 before switching over to the east side of the roadway by the fire house. Given the proximity of the project to Pettee Brook, we will be applying for the required environmental permits as they pertain to this project.

On behalf of the Town of Salisbury, I kindly ask for your office's review of the preliminary design plan set and construction cost estimate linked below as part of the encroachment

permit process.

https://slrgroup-my.sharepoint.com/:f:/g/personal/mmancini_slrconsulting_com/EifaRhqHCglChoahJ0lhIXQB1vl0rF5_JboAR_PYZdL0A?e=A8itGH

If you have any questions or need any further information, please do not hesitate to contact me.

-Marc



Marc S. Mancini, EIT

Transportation Engineer

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C +1 203 217 6145

E mmancini@slrconsulting.com

99 Realty Drive, Cheshire, CT 06410

www.mminc.com | www.slrconsulting.com



Natalia Smirnova <2014nataliasmirnova@gmail.com>

Fwd: Salisbury: Route 44 Project

Christian Williams <bandit2spot1@yahoo.com>

Mon, Aug 10, 2020 at 6:24 AM

To: Natalia Smirnova <2014nataliasmirnova@gmail.com>, Kathryn Trahan <ktbox495@gmail.com>, Gerry Stanton <geraldstanton423@gmail.com>, Pat Hackett <prh@prhackett.com>

Sent from my iPhone

Begin forwarded message:

From: Curtis Rand <crand@salisburyct.us>**Date:** July 29, 2020 at 3:24:55 PM EDT**To:** Christian Williams <bandit2spot1@yahoo.com>, prh@prhackett.com**Subject:** Fwd: Salisbury: Route 44 Project

Sent from my iPhone

Begin forwarded message:

From: Marc Mancini <mmancini@mminc.com>**Date:** July 29, 2020 at 11:26:27 AM EDT**To:** Curtis Rand <crand@salisburyct.us>**Cc:** Chris Williams <cwilliams@salisburyct.us>, Pat Hackett <prh@prhackett.com>, Tony Ciriello <TCiriello@mminc.com>**Subject:** Salisbury: Route 44 Project

Hi Curtis,

Please find linked below the Salisbury Route 44 Sidewalk/Pedestrian Bridge preliminary design plan set and construction cost estimate for download and review. Coincidentally, a preliminary design submission will be made to the CTDOT District 4 office for their review given the project's location along a state route and the need for an encroachment permit to perform work within the state right-of-way. It is important to get the plans into their hands ASAP to expedite their review.

This electronic submission constitutes the completion of the preliminary design phase. Below I have outlined what the next steps are to continue moving this project towards completion. Once you get a chance to review the submission please let me know when we can have a conference call to discuss the submission and the next steps going forward. The best way to get a hold of me is via email or by cell phone at (203)-217-6145.

https://slrgroup-my.sharepoint.com/:f/g/personal/mmancini_slrconsulting_com/EifaRhqHCglChoahJ0IhIXQB1IvI0rF5_JboAR_PYZdL0A?e=A8itGH

Next Steps:

1. Submit to CTDOT District 4
2. Begin Environmental Permitting process
3. Review PD Plan Set & Construction Estimate with Town/ Salisbury Pathways Committee and answer any questions (1-2 weeks)
4. Assist the Town/Salisbury Pathways Committee in presenting the PD plans at public information meeting (virtually?)
5. Prepare Construction Documents & incorporate Town, CTDOT & public comments

-Marc



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Salisbury Pathways Committee

Fifty Third Meeting

Date and Time: Monday, September 14, 2020, at 5:30 p.m.

Location: Virtual via Zoom.

Present: Natalia Smirnova, Kathy Trahan, Gerry Stanton, Pat Hackett, Chris Williams (late)

Minutes:

Call to order -- 5:33 p.m.

1. Approval of the minutes of August 10, 2020.
Approved unanimously.
2. Status of the Connectivity Grant:
 1. Consultant submitted preliminary review.
 2. Comments have to be addressed:
 - Bridge maintenance is in question. DOT wants the Town to assume the maintenance of the bridge because it will be difficult for DOT to access the covert wall upstream. It would not a regular maintenance. Maybe once in 10 -20 years.
 - Lights – the Committee went with the least expensive option. Consultant will have to work out the details with Curtis and Chris.
 3. Work is still on schedule to start in April 2021.
 4. There will be meeting this week with Curtis, Chris, and the Consultant to work out the details and to decide when to have a public meeting.
3. Status of Library to Salmon Kill Road to Salisbury Association's Meadow Sidewalk:
 - i. All DOT comments were addressed.
 - ii. The application for the DOT Permit was sent.
 - iii. Waiting for the DOT permit to be issued.
4. Citizens comments:

Mr. Gerry Reidy from Lake Wononscopomuc Association attended the meeting and commented on the Association's interest to slow down the traffic and build the sidewalk on Rt. 44 before coming to the center of Lakeville from New York. Mr. Reidy will present their ideas at the next meeting of the Committee on October 19, 2020.
5. New Business:
 - The Town is working to install the beacon lights in the center of Salisbury and at the White Hart. Pedestrians will be able to push the button and the lights will come on warning the traffic to slow down. The same lights as in the center of Lakeville.
 - After the work at Salmon Kill and Railroad Ramble completes, there will be a re-design of the crossing of Salmon Kill Rd. Probably beacon lights will be installed.
 - New Transfer Station will be open on October 15, 2020.
 - The State is in Phase 2 of reopening. Stay safe!

Meeting adjourned at 6:08 p.m.

Minutes respectfully submitted by Natalia V. Smirnova, Secretary, on September 14, 2020.

Salisbury Pathways Committee

Fifty Fifth Meeting

Date and Time: Monday, December 14, 2020, at 5:30 p.m.

Location: Virtual via Zoom.

Present: Natalia Smirnova, Kathy Trahan, Gerry Stanton, Pat Hackett

Minutes:

Call to order -- 5:31 p.m.

1. Approval of the minutes of October 19, 2020.

Approved unanimously.

2. Status of the Connectivity Grant.

Report from Chris Williams (via email): "We have been struggling with DOT on our Brook crossing. The problem is that if we put the bridge back from the head wall so maintenance can be done to the head wall, the bridge covers two storm drainpipes. DOT at this time doesn't want us to cover the two pipes, and the bridges abutments would interfere with the two pipes. Our engineering firm asked about getting a small right of way from 2 property owners on either side of the Brook. This doesn't seem likely at this time. But after going back and forth with Curtis on the situation, Curtis has scheduled a meeting for tomorrow, Tuesday, December 15, 2020 at 10:00 a.m. in the field with DOT and the engineering firm to try and find a compromise. I think Pat knows about the meeting and will be attending."

Pat Hackett confirmed his attendance. Gerry Stanton volunteered to also attend the meeting to provide support and additional representation from the Committee. Pat and Gerry are asked to report to the Committee about the outcome.

3. Status of Library to Salmon Kill Road Sidewalk.

Report from Chris Williams (via email): "The engineering firm was called by Curtis last month and asked to assemble a RFB for the project. We're hoping to use a local firm with assistance from our Town crew to keep the costs very low. The project RFB should be out this winter so we can be first scheduled for the spring as the companies plan their spring and summer projects ahead of the seasons. Once the snow is gone in the spring the engineering firm will stake out all the grades for the contractor that is awarded the project."

The Committee was excited to learn that this project is moving forward.

4. Committee meeting dates for next year.

The Committee will meet as usual on the second Monday of the month. The only conflict is Columbus Day. We will meet in October on the third Monday, which is October 18, 2021.

The Committee approved the attached schedule of meetings unanimously.

5. Citizens comments. – No citizens present.

6. Happy Holidays and Happy New Year!

Meeting adjourned at 5:43 p.m.

Minutes respectfully submitted by Natalia V. Smirnova, Secretary, on December 15, 2020.

Salisbury Pathways Committee

Meeting Dates for 2021

Salisbury Pathways Committee is to meet on the second Monday of every month at 5:30 p.m.

January 11

February 8

March 8

April 12

May 10

June 14

July 12

August 9

September 13

October 18*** - third Monday due to the conflict on Columbus Day

November 8

December 12

Salisbury Pathways Committee

Fifty Fourth Meeting

Date and Time: Monday, October 19, 2020, at 5:30 p.m.

Location: Virtual via Zoom.

Present: Natalia Smirnova, Kathy Trahan, Gerry Stanton, Chris Williams, Gerry Reidy, Artur Strang, Susan Strang, Donald Ross

Minutes:

Call to order -- 5:31 p.m.

1. Approval of the minutes of September 14, 2020.
Approved unanimously.
2. Committee Reappointment due to term expiration: Chris Williams and Kathryn Trahan.
Chris Williams and Kathryn Trahan reappointed for 3-year term to expire in October 2023 unanimously.
3. Status of the Connectivity Grant.
A little problem arose for the bridge across the brook on the north side of Rt. 41/44. Due to issues with the brook's embankment, DOT needs to have access to them. The town suggested to move the bridge a little more in to allow the access. But now, this infringes on the private property. Curtis and Chris Williams are working with the property owner seeking to achieve the right of way.
4. Status of Library to Salmon Kill Road Sidewalk.
DOT permit received, signed by Curtis Rand, and sent back to DOT. Now waiting for the permit to come back to us with DOT signature.
Lenard, the firm working on this project, is crafting the bid terms to be ready for bidding process in December 2020. The difficulty is that the work will be combines with the Town crew, so some logistical challenges will need to be overcome.
The project should be "shovel ready" in the Spring 2021.
5. New Business:
 - Mr. Gerry Reidy from Lake Wononscopomuc Association – presentation.

"I want to thank the Committee for taking the time to hear me tonight on the subject of the 'Route around the Lake' in general and Route 44 as it runs along Lake Wononscopomuc in particular. I am a member of the Board of the Lake Wononscopomuc Association. I do not know how many neighbors have dialed into this meeting, but I know fellow Board member Arthur "Chip" Strang is on the call. We are a two-person team heading up an Association project to improve the safety of the residents of the Lake area by widening the walking/jogging route they take around the Lake or replacing it with sidewalks. Chip has been speaking to our representatives on the State level and I have been speaking to folks on the local level.

In this regard, although I was not on the agenda, Curtis asked me to say a few words on the subject at the last Selectmen's Meeting.

As you can see from my earlier email of the minutes of the Committee's meeting of 10/20/14, which contained Pat Hackett's sketch of the route, a safe path around the Lake is not a new idea. It has been on the Committee's radar as a priority since its organization. An examination of the sketch shows the route to be comprised of 4 segments: Route 41, Route 112, Indian Mountain Road and Route 44. At present, there are an increasing number of walkers and joggers, including students who make use of the route on a daily basis.

As I mentioned, our goal is to make that activity a safer one. We aim to do this in the short run by widening the shoulder of the roads on which the activity occurs and in the longer run by putting in sidewalks.

Each of Route 44, 41 and 112 is a State and the relevant segments of those roads have a speed limit of 40 mph. They are the only roads in the Salisbury Residential-IV Zoning District to have such a speed limit. The speed limit on Route 44 drops from 40 to 30 mph as it enters this Zoning District from the north at Cobble Road. (See the fourth attached picture.) Mountain Road is a Town Road and has a speed limit of 30 mph.

The portions of the Route or path along Routes 41 and 112 have the advantage of being bracketed on each end by a four way stop sign. This acts as a brake on the buildup of speed by cars and trucks coming out of Sharon, Lime Rock and Millerton. Additionally, there is a school zone for the Hotchkiss School that extends along a portion of 41 and 112 which lowers the actual speed limit. Unfortunately, for some reason there is no reduced speed school zone for the Indian Mountain on Route 112 not far from the junction of Indian Mountain Road. (A picture of the entrance to the school from Route 112 is attached as the third picture.) If there was such a zone, the speed reduction zones at both ends of Route 112 would go a long way to reducing the speed at which cars and trucks travel the road. We hope to get the school to apply.

Additionally, the shoulders on Route 41 and 112 are wider than those on Route 44 and they are flat as opposed to the sloping sides on Route 44.

I should mention in passing that although Indian Mountain Road is a Town Road and has a lower speed limit of 30 mph, the shoulders have not been delineated by a stripe nor is there even a center line delineating the two opposing lanes of traffic. (You will note the absence of road markings on the attached picture, first attachment, of the road.) I will follow with the Town to see if I can get this remedied.

Route 44 is the bigger problem. There is no stop sign between the NYS line and the cross-walk at Holley road. This 5-mile stretch of 40-mph road gives cars and trucks plenty of time to build up a momentum as they come barreling into this residential zone of Lakeville at 50 mph. With no means to enforce even the 40-mph limitation, there is little likelihood that the drivers will change their habits anytime soon unless we can step to make them do so.

I studied the Committee's successful campaign to put in sidewalks along the combined Route 44/41 corridor between the two town centers. I note that back in February 2016, as a first step towards obtaining a State grant to cover the cost of installing a sidewalk along Route 44/41, the Committee filed an application for a Road Safety Audit on that stretch of road. The Audit Report contained some interesting points including the point that the

planned repaving of the road, provided the opportunity to restripe the road to maximize the width of the shoulders. I am pleased to report that following Chip's interaction with the folks at the DOT, the recently re-paved Route 44 along the Lake has been restriped narrowing the driving lanes from 13 feet to 11 feet and in the process widening the shoulder on either side by 2 feet.

The 40-mph speed limit on Route 44 from the NYS line to Holley Street was last reviewed by the DOT in 1981. Since that time, the number of home and residents along it have greatly increased. In addition, more people including students are exercising by walking and jogging than we saw 40 years ago. If that was not enough, we have a new transfer station opening on Route 44 which will greatly increase truck and car traffic and shift traffic patterns in the Town to Route 44 by those folks going to the station. Add to that a double S curve on Route 44 by the Lake where the driver's view is obstructed by overgrown shrubbery (see attached second picture) and it's a challenge particularly by the culverts over the various streams that run under Route 44 where the shoulders narrow and the guide is an old wire rope rail which may not be up to standards.

The Town was successful in having the speed lowered on the 44/41 corridor. In 2017 Curtis sent a letter to the DOT requesting a further reduction to 20 mph and the creation of a reduced speed school zone for the Salisbury School. While the school zone was approved, the DOT did not approve the reduction to 20 mph because no State roads absent a special zone have a speed limit of 20 mph. There is no reason however why the speed limit cannot be lowered on Route 44 in the Residential -IV Zone (Route 44 between Route 112 and Holley Road) and I intend to follow up on this and on the restriping of Indian Mountain Road. Following the Committee's playbook, I request the Committee file an application with the DOT for an RSA for Routes 44,41 and 112.

I will let Chip add any recent information and hopefully we can answer any questions you might have and would welcome any suggestions."

- Mr. Artur (Chip) Strang from Lake Wononscopomuc Association

"Thank you, Gerry, for your full description and explanation of a path around the lake.

I would only add the following:

1) It seems that the lowest speed limit allowed, barring a school zone, is 30 MPH. We might start with that along the lake and along other areas with similar housing density. The 30 MPH on Indian Mountain Road supports that speed and safety for a path around the lake.

2) As designed, the width of the Right of Way (ROW) on State Routes 41 and 44 appears to be: 50 and 50-100 feet, respectively. This, from the State engineering drawings provided by the State transportation engineer overseeing the Route 44 repaving. The drawings are dated around 1930. The state engineer, Allan W. Dodge, was unable to find similar drawings for State Route 112. (These drawings are on my list.)

I will forward the drawings of Routes 41 and 44 if you want them.

3) A rod is 16 and 1/2 feet (Google search). Was the ROW of Route 112 as wide as 5 rods, or 82 1/2 feet or 4 rods, 66 1/2 feet?

Thanks to you both for the progress made on a path around the lake.”

- Chris Williams: thank you both for participating in this meeting. In terms of Safety Audit, we were one of the first towns that participated in the new (at that time) program of the State “Community Connectivity Program”. Therefore, our RSA was done free of charge. Now, the audit usually costs money.

I want to point you to the DOT web site, where you can find information about various projects that are going on: www.DOT.gov.

If there will be an opportunity to participate in the RSA, we will definitely take this opportunity. Our [RSA](#) is already several years old, so we can argue for the necessity to repeat the audit.

6. Citizens comments.

- Mrs. Susan Strang:
To celebrate the new sidewalk(s) in town and to promote the new enhanced paths around the lake, it will be a good idea to organize the Salisbury Walk. It could be in conjunction with the Fall Festival. The Salisbury Walk could be started in October 2021.

Next pages contain photographs submitted by Mr. Gerry Reidy.

Meeting adjourned at 6:28 p.m.

Minutes respectfully submitted by Natalia V. Smirnova, Secretary, on October 23, 2020.







